



CALIFORNIA HIGH-SPEED RAIL AUTHORITY

September 11, 2012

**AGRICULTURAL WORKING GROUP
WHITE PAPERS**

AGRICULTURAL WORKING GROUP

- The Agricultural Working Group (AWG) was established to provide third-party review on impacts to current agricultural practices during construction and operation of HSR in the Central Valley.
- AWG members are specialists representing a broad range of agricultural interests.



AGRICULTURAL WORKING GROUP GOALS

- **Goal 1:** Refine the list of issues and concerns within the agriculture industry.
- **Goal 2:** Use the agricultural expertise of the resource specialists to provide the best possible analysis of the issues and concerns.
- **Goal 3:** Use resource specialists to develop prevention and mitigation measures, where needed, to minimize agricultural impacts during construction and implementation of the High-Speed Rail project.



AGRICULTURAL WHITE PAPERS

PURPOSE: REVIEW RESEARCH ON KEY AGRICULTURAL ISSUES AND ADDRESS CONCERNS RELATED TO HSR

- **Bees and Pollination:** Will bee pollination be disrupted?
- **Induced Winds:** Will there be impacts from induced wind?
- **Dairy Impacts:** Will dairy production be affected by noise, vibration, or electromagnetic fields?
- **Movement of Agricultural Equipment:** Will the movement of agricultural equipment be constrained?
- **Irrigation:** Will the delivery of agricultural water be impacted?
- **Pesticide Use:** Will the High-Speed Train create new regulations?

PEER REVIEW

- AWG members identified qualified professional agricultural organizations and universities to conduct peer reviews of each white paper.
- The California Farm Bureau was informed of those who were identified to conduct the peer reviews.
- Peer review comments were reviewed by the AWG and incorporated to improve the white papers.

BEES AND POLLINATION

WILL BEE POLLINATION BE DISRUPTED?

- Honey bees do not forage in rain or in wind stronger than 12 mph.
- Bees cannot carry a load upwind against winds higher than 15 mph and drift more under windy conditions.
- Cross pollination (required for commercial almonds) cannot occur with strong wind. Strong wind injures flowers and causes loss of pollination. Dry hot winds can effect the fertilization.
- Bee keepers consider various hive placement strategies in the field or orchard to improve performance.
- The brief 2 mph wind caused by the project will not impact the bees.



INDUCED WIND

WILL THERE BE IMPACTS FROM INDUCED WIND?

- There is no significant wind created by the High-Speed Train at the right-of-way line. It would not exceed 2 mph.
- The effect on blossoms and flowering trees is minimal due to the expected wind speed.
- Dust creation at the right-of-way line will be minimal.
- The impact on pesticide use will be minimal.



DAIRY IMPACTS

WILL DAIRY PRODUCTION BE AFFECTED BY NOISE, VIBRATIONS, OR ELECTROMAGNETIC FIELDS?

- Dairy cows exposed to recorded jet noise just before milking showed no behavioral or productivity responses.
- In a report by the U. S. Department of Transportation, it is stated that there is no established criteria relating high-speed train noise and animal behavior.
- In past sound studies, sudden, novel sounds have a larger effect on behavior. Effects decline as animals become accustomed to sounds.
- Studies examining responses in milk production from dairy cows on exposure to EMF have been variable and non-conclusive. The modeled levels of EMF exposure and measurements on other existing HSTs are well below existing standards.

DAIRY IMPACTS



MOVEMENT OF AGRICULTURAL EQUIPMENT

WILL THE MOVEMENT OF AGRICULTURAL EQUIPMENT BE CONSTRAINED?

- Agricultural equipment requires over or under crossings with specific width, height, weight, sight distance, and travel speed characteristics:
 - Turning radius needed around rows averages 35 ft.
 - Widths range from 6 to 21 feet classified by folding/non-folding.
 - Heights range from 7 to 16 feet.
 - Operating weights range from 2,000 to 65,000 lbs.
- All public road modifications will be done to State and County standards.



IRRIGATION

WILL THE DELIVERY OF AGRICULTURAL WATER BE IMPACTED?

- No irrigation water will be blocked by extended outages.
- Short sections of conveyance systems owned and operated by irrigation districts and other water agencies may need to be relocated or realigned outside the project footprint.
- Irrigation systems can cross the project alignment in accordance with design standards for operations and serviceability.
- Master Service Agreements will cover construction, operations, access, reimbursement, and maintenance issues.
- Modification or relocation of individual irrigation systems owned and operated by each property owner are a part of the ROW acquisition process. This includes wells, ditches, pipes, filters, etc.

IRRIGATION



PESTICIDE USE

WILL THE HIGH-SPEED TRAIN CREATE NEW REGULATIONS?

- There are no new conditions created by the High-Speed Train that will require new regulations.
- There is no significant wind created at the right-of-way line by the High-Speed Train.
- Limitations on the use of pesticides are most often caused by atmospheric conditions.

AGRICULTURAL WORKING GROUP

NEXT STEPS

- Utilize the AWG Whitepapers to
 - review findings and confirm key issues have been identified with farm owners and agricultural organizations
 - refine HSR policies on specific agricultural impact solutions
 - develop working relationships with other State Departments to maximize opportunities for solutions to agricultural impacts
- Develop in partnership with the Dept. of Food and Agriculture a long-term Agricultural Working Group and consideration for
 - funding research as needed for analyzing ag impacts
 - how to streamline permitting regulations where impacted by HSR
 - cooperatively focus the ag mitigations proposed with local stakeholders



THANK YOU